

What is claimed is:

1. An isolated *Bifidobacterium* having the characteristics of strain RecB1.
2. An isolated *Bifidobacterium* having the characteristics of strain RecB4.
3. An isolated *Bifidobacterium* having the characteristics of strain J1.
4. An isolated *Bifidobacterium* having the characteristics of strain J2.
5. An isolated *Bifidobacterium* having the characteristics of strain J4.
6. An isolated *Bifidobacterium* having the characteristics of strain P1.
7. An isolated *Bifidobacterium* having the characteristics of strain 6A.
8. An isolated *Bifidobacterium* having the characteristics of strain 10A.
9. A method for inhibiting the replication of a microbe in the gastrointestinal tract of an animal, comprising administering to an animal a *Bifidobacterium* that secretes a siderophore, and measuring the presence of the microbe in the gastrointestinal tract, where a decrease in the presence of the microbe in the animal after administration of the *Bifidobacterium* indicates inhibition of the replication of the microbe.
10. The method of claim 9 further comprising growing the *Bifidobacterium* under iron limited conditions before administration.
11. The method of claim 10 wherein growing the *Bifidobacterium* under iron limited conditions comprises growth in the presence of an iron chelator.
12. The method of claim 9 wherein the animal is a human.

13. The method of claim 9 wherein the microbe is a prokaryotic microbe.

14. The method of claim 13 wherein the prokaryotic microbe is selected from the group consisting of *E. coli*, *Salmonella* spp., *Shigella* spp., *Campylobacter* spp., *Clostridium difficile*, and *Clostridium perfringens*.

15. The method of claim 9 wherein the gastrointestinal tract is the large intestine.

16. A method for treating a lactase deficiency, comprising administering to an animal a *Bifidobacterium* that secretes a siderophore, and detecting the presence of unabsorbed lactose in the gastrointestinal tract, where a decrease in the presence of unabsorbed lactose after administration of the *Bifidobacterium* indicates treatment of the lactase deficiency.

17. The method of claim 16 further comprising growing the *Bifidobacterium* under iron limited conditions before administration.

18. The method of claim 16 wherein the animal is a human.

19. The method of claim 16 wherein the gastrointestinal tract is the large intestine.

20. A method for establishing a *Bifidobacterium* flora in the gastrointestinal tract of an animal comprising administering to an animal a *Bifidobacterium* that secretes a siderophore, and measuring the presence of the *Bifidobacterium* in the gastrointestinal tract of the animal after administration.

21. The method of claim 20 further comprising growing the *Bifidobacterium* under iron limited conditions before administration.

22. The method of claim 20 wherein the gastrointestinal tract is the large intestine.

23. The method of claim 20 wherein the animal is a human.

24. The method of claim 23 wherein the human is an infant selected from the group consisting of an immature infant, a premature infant, and a mature infant.

25. The method of claim 23 wherein the administration occurs after the human has undergone antibiotic therapy.

26. The method of claim 23 wherein the administration occurs after the human has undergone chemotherapy.

27. A method for preventing the replication of microbes in a food, the method comprising adding to the food a *Bifidobacterium* that secretes siderophore.

28. A method for decreasing the risk of colon cancer comprising administering to an animal a *Bifidobacterium* that secretes a siderophore, and detecting the presence of aberrant crypt foci in the colon of the animal, where a lower number of aberrant crypt foci relative to an animal not administered the *Bifidobacterium* indicates a decrease in the risk of colon cancer.

29. A composition for inhibiting the replication of a microbe in the gastrointestinal tract of an animal, the composition comprising a *Bifidobacterium* that secretes siderophore.

30. A method for obtaining a siderophore from a *Bifidobacterium*, the method comprising incubating a *Bifidobacterium* under iron limited conditions, and isolating the siderophore.

31. A method for preparing a siderophore, the method comprising incubating a *Bifidobacterium* under iron limited conditions, and sterilizing the culture.

32. The method of claim 31 wherein the culture is sterilized by removing essentially all water from the culture.

33. A composition comprising a siderophore obtained from a *Bifidobacterium*, wherein the composition is sterile.

34. An isolated siderophore obtained from a *Bifidobacterium*.

35. An isolated siderophore that binds Fe<sup>2+</sup>, the siderophore obtained from a *Bifidobacterium*.

36. A method for decreasing the amount of free iron in a composition, the method comprising adding to a composition a siderophore obtained from a *Bifidobacterium*.

37. A method for decreasing the amount of free iron in a composition, the method comprising adding to a composition an isolated siderophore obtained from a *Bifidobacterium*.

38. A method for inhibiting the replication of a microbe in a composition, the method comprising adding to a composition a siderophore obtained from a *Bifidobacterium*.

39. A method for inhibiting the replication of a microbe in a composition, the method comprising adding to a composition an isolated siderophore obtained from a *Bifidobacterium*.

40. A method for altering the expression of a siderophore in a *Bifidobacterium*, the method comprising incubating under iron limited conditions a *Bifidobacterium* that does not secrete a siderophore, and selecting for a *Bifidobacterium* that replicates in the iron limited condition.